

Dms 204

Type 4

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
MATERIAL SAFETY DATA SHEET (OSHA Form 20)

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration		Form Approved OMB No. 44-R1387
<b>MATERIAL SAFETY DATA SHEET</b>		
Required under USOL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)		

<b>SECTION I</b>	
MANUFACTURER'S NAME <b>Monsanto Company</b>	EMERGENCY TELEPHONE NO. <b>(314) 694-1000</b>
ADDRESS (Number, Street, City, State, and ZIP Code) <b>800 North Lindbergh Blvd., St. Louis, Missouri 63166</b>	
CHEMICAL NAME AND SYNONYMS <b>SKYDROL® LD-4 (MCS 1852A)</b>	TRADE NAME AND SYNONYMS
CHEMICAL FAMILY <b>Blend Phosphate Esters + Additives</b>	FORMULA

<b>SECTION II - HAZARDOUS INGREDIENTS</b>					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Not hazardous as defined in 29 CFR Section 1915.2, which pertains to this data sheet.					

<b>SECTION III - PHYSICAL DATA</b>			
BOILING POINT (°C) <b>With decomposition, approx 350°C</b>	SPECIFIC GRAVITY (H <sub>2</sub> O=1)		<b>1.009</b>
VAPOR PRESSURE (mm Hg.) <b>@ 72°F. " 6 mm</b>	PERCENT VOLATILE BY VOLUME (%)		<b>N.A.</b>
VAPOR DENSITY (AIR=1)	EVAPORATION RATE (°1)		<b>N.A.</b>
SOLUBILITY IN WATER <b>negligible</b>			
APPEARANCE AND ODOR <b>Clear purple liquid, mild to slight pungent odor</b>			

<b>SECTION IV - FIRE AND EXPLOSION HAZARD DATA</b>			
FLASH POINT (Method used) <b>320°F min., Cleveland Open Cup</b>	FLAMMABLE LIMITS		
EXTINGUISHING MEDIA <b>Dry powder, CO<sub>2</sub>, Chemical foam, water fog</b>	Lel	Uel	
SPECIAL FIRE FIGHTING PROCEDURES <b>None expected</b>			
UNUSUAL FIRE AND EXPLOSION HAZARDS <b>None expected</b>			

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## SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Not established

EFFECTS OF OVEREXPOSURE

Impossible at ambient temperature. Excessive high temperature may product irritating vapors

EMERGENCY AND FIRST AID PROCEDURES

Unlikely to be necessary. Remove to fresh air.

## SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

None

HAZARDOUS DECOMPOSITION PRODUCTS

Smoke, soot, CO, CO<sub>2</sub>, Phosphorus OxidesHAZARDOUS  
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

## SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Clean up as other common oily liquids, such as petroleum oil (absorbants, detergent and water clean)

WASTE DISPOSAL METHOD

Approved land fill, incineration or recycle for other appropriate use

## SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Not necessary due to low vapor pressure at ambient temp.

VENTILATION

LOCAL EXHAUST

If excessively high temp. or

SPECIAL

if generated as mist or aerosol

MECHANICAL (General)

Not necessary

OTHER

PROTECTIVE GLOVES

Not necessary

EYE PROTECTION

Not necessary except as good

OTHER PROTECTIVE EQUIPMENT

None

industrial practice

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Although no special precautions appear necessary, good industrial practice as to housekeeping, personal hygiene,

OTHER PRECAUTIONS

avoidance of prolonged and repeated skin contact and

splashing in eyes is indicated.

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While the information and recommendations set forth herein are believed to be accurate as of the date hereof, MONSANTO COMPANY MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

## SKYDROL 500 B-4 (MCS 1382)

## TOXICITY

The rat acute oral LD<sub>50</sub> of MCS 1382 is 2.2 grams/kilogram. All rabbits receiving a continuous 24-hour dermal application of MCS 1382 survived the highest dosage tested (7.94 grams/kilogram). Thus, MCS 1382 is considered to be slightly toxic by ingestion in single doses and practically non-toxic by single dermal applications.

When 0.1 milliliter of undiluted MCS 1382 was placed into the conjunctival sac of the rabbit eye, a slight degree of irritation resulted. The average score of the 24-, 48- and 72-hour reading was 2.4 on a scale of 110.0. All eyes had regained a normal appearance 48 hours after they were dosed. A mild degree of irritation resulted when MCS 1382 was held in continuous 24-hour contact with intact and abraded rabbit skin. The Primary Irritation Index was 2.5 on a scale of 8.0.

Repeated insult patch testing (15 serial applications and a challenge) of 50 human volunteers with undiluted MCS 1382 produced no positive skin reactions. It was concluded that MCS 1382 was neither a primary skin irritant, nor a fatiguing agent, nor a skin sensitizer.

Rats were exposed to a stream of air which was passed through MCS 1382 and led directly into the experimental chamber. All 6 rats survived both the 8-hour exposure and the subsequent 14-day observation periods without observable effects.

## HANDLING PRECAUTIONS

MCS 1382 has a negligible vapor pressure at room temperature and is not expected to present a significant vapor inhalation hazard under ambient conditions. However, precautions should be observed to avoid inhalation of increased vapor concentrations which may occur if MCS 1382 is used at elevated temperatures.

Repeated or prolonged skin contact with MCS 1382 should be avoided. In case of skin contact, wash affected area thoroughly with soap and water.

In case of eye contact, flush immediately with large volumes of water. If irritation persists, consult a physician.

MCS 1382 appears to possess no other acute toxicologic properties which would require special handling other than the good hygienic practices employed with any industrial chemical.

10/28/75  
Y-74-32,  
SH-72-18

The above information is based upon studies conducted for Monsanto Company. It is believed to be correct, and it is supplied to others upon the condition that the persons receiving it shall make their own determination of its suitability for their purposes. No warranty is expressed or implied regarding the accuracy of this information or the results to be obtained from its use.